ACCESS-NRI Status update Annual Work Plan

FY2025–2026

Introduction

This document provides a status update on the ACCESS-NRI Annual Work Plan for this financial year.

For this status, we organise our work plan goals in three categories:

- Achieved: goals that have been achieved.
- Working towards: goals with active development and/or goals we are reasonably confident in achieving in this financial year.
- Not achieved: Goals where progress has been slower than planned and some or all of the work is unlikely to be completed within this financial year. This may be due to dependencies, changes in priorities, or resourcing constraints.

Note that some activities are ongoing (e.g. the management of the merit allocation scheme or community engagement). Goals associated with these activities are evaluated for this financial year only and may reoccur in future years independently of their status for this year.

1. Model development and release

Table 1: Model development and release activities for FY25–26

Activity	Description	Team(s)
Ancillary suites and tools	Achieved: - Prepare ACCESS-ESM1.6 ancillaries for CMIP7 fast-track Working towards: - ANTS-based ancillary creation for CABLE in ACCESS-AM3. - Generic routines for met forcings in CABLE Not achieved: - Published CABLE input data collection (stretch goal) - Published CABLE forcing data collection (stretch goal)	Atmosphere Model and Land Model teams

ACCESS atmosphere model	Achieved: Working towards: - Release a beta version of ACCESS-AM3. - deployment of a preliminary workflow for high resolution ACCESS-AM3 simulations. Not achieved: - Beta release of the ACCESS-AM3 model with biogeochemistry (stretch goal)	Atmosphere Model, Land Model and Model Release teams *Collaborators: CSIRO*
ACCESS coupled models	Achieved: Working towards: - Release of ACCESS-ESM1.6 - Release of ACCESS-CM3 (alpha with CABLE3) Not achieved: - Release of ACCESS-ESM3 (alpha with CABLE3) - Release of additional ACCESS-ESM1.5 configurations - Payu updates that will allow more flexibility for paleoclimate configurations (stretch goal)	Atmosphere, Model, Ocean Model, Land Model, Model Release and Software Transformation teams *Collaborators: CSIRO and NESP*
ACCESS ocean/sea-ice model	Achieved: - Two beta release of ACCESS-OM3-25km - testing an ACCESS-OM3-8km alpha configuration. - test cases of ACCESS-OM3 at 100 km resolution that includes WW3 and WOMBAT Working towards: - ACCESS-OM3-25km control runs (stretch goal) - ACCESS-OM3 evaluation paper (stretch goal) Not achieved:	Ocean Model and Model Release teams *Collaborators: CSIRO and COSIMA*
ACCESS regional atmosphere model	Achieved: - Inclusion of daily varying OSTIA sea surface temperatures Working towards: - ACCESS-rAM3-CABLE alpha release (stretch goal) - ability to use global climate model data for initial and lateral boundary conditions - incorporate ACCESS-rAM3 development into the UKMO RAS/RNS trunk Not achieved: - ACCESS-rAM3 with chemistry (stretch goal)	Atmosphere Model, Land Model and Model Release teams *Collaborators: 21st Century Weather and the Bureau of Meteorology*
ACCESS regional ocean model	Achieved: - develop and maintain up-to-date instructions for generating new regional domains Working towards: - An Australia-wide model configuration (physics-only, without data assimilation) will be developed - Simplify Jupyter notebook instructions to set up ACCESS-rOM3 (stretch goal) Not achieved: - 10-year simulation run using the Australia-wide model configuration and added to the ACCESS-NRI Intake data catalogue. - Alpha release of an Australia-wide configuration (stretch goal)	Regional & Coastal Ocean Model team *Collaborators: UNSW and 21st Century Weather*

ACCESS land model	Achieved: - addition of BIOS to CABLE - Improved CI for CABLE with support for Intel and GNU compilers (stretch goal) Working towards: - a new MPI implementation for CABLE - Addition of BLAZE to CABLE - Addition of groundwater to CABLE - Release workflow for CABLE Not achieved: - CABLE code refactoring - Improved CI with support for CABLE's release workflow requirements (stretch goal)	Land Model team *Collaborators: CSIRO*
ACCESS ice sheet model	Achieved: - Release of alpha and beta versions of the Ice-sheet and Sea-level System Model (ISSM) Working towards: - Release of alpha and beta version of the ISSM Python API - API development and documentation of more complex analysis and visualisation (stretch goal) - Establish project plan for ISSM-OM3 coupling (stretch goal) - Establish project plan for ISSM-AM3 coupling (stretch goal) Not achieved:	Ice Sheet Model team *Collaborators: Monash University, UTAS and AAD*
Coastal modelling commons	Achieved: - Create a repository of scripts for use by the coastal modelling community Working towards: - Engagement with the community for the repository of scripts - More than 1 community group's uploaded files (stretch goal) Not achieved: - Model agnostic strategy that supports 3–5 different models (stretch goal)	Regional & Coastal Ocean Model team *Collaborators: UNSW*

*Full time equivalent (FTE) staff needed to scope, undertake, and deliver activity.

2. Infrastructure

Table 2: Infrastructure activities for FY25–26

Activity	Description	Team(s)
Model release CI/CD	Achieved: - Major version upgrade for the model CI (2.0). Features complete customisability of build CI - Infrastructure for deploying supporting software and tools - Automating testing of model deployments in configurations Working towards: - Improvements to the testing and production environments: simplifying, making more robust and cross platform, supporting spack v1 - Generalised CI testing (CI 2.1) Not achieved:	Model Release team

Model configuration tools and testing	Achieved: - Released 3 updated versions of Payu including: 23 feature enhancements, 8 infrastructure updates and 7 bug-fixes. Including OM3 enhancements, ESM1.6 and *ROMS* support, status reporting and telemetry. Working towards: - Improvements to Payu: consistent and improved error reporting, addressing issue backlog, improving documentation and targeting an improved experience for beginning users - Enhancements for data standards checks Not achieved: - Removing dependency on /g/data/access/modules from our released suites (stretch goal) - Enhancements for performance testing	Model Release team
Model build infrastructure	Achieved: - Infrastructure maintenance. Merged PRs: spack: 12, spack-config: 23, spack-packages: 47. Working towards: - Upgrade of Spack to v1 - Unify Spack build infrastructure for AM3, CM3, ESM3 and rAM3 (stretch goal) - Spack shared instance (stretch goal) Not achieved: - Updates related to the UKMO transition from MOSRS to Github and the release of the Cylc8 suites.	Model Release team
Monitoring and impact tracking	Achieved: - Developed and implemented privacy plan - Developed and deployed payu telemetry - Preliminary intake tracking implemented - Developed and implemented Zulip reporting interface for django apps - Developed and implemented disk quota reporting and automated alerting Working towards: - Updates to the monitoring framework for tracking uptake and impact of ACCESS-NRI infrastructure - Automated reporting framework - Porting remaining NCI resource reporting to django Not achieved: - Telemetry targets: rose+cylc and stretch targets ESMVALtool, ILAMB, modules and conda environments	Model Release team and cross-organisation
ACCESS-NRI merit allocation	Achieved: Working towards: - Management of the ACCESS-NRI merit allocation Not achieved:	Cross-organisation
Preparing for platforms outside NCI	Achieved: - Tested model spack builds on Pawsey Working towards: - Add cross platform support to payu to enable port to Pawsey Not achieved:	Model Release and Land Model teams

	- Testing our model build and software release processes across multiple platforms (stretch goal)	

*Full time equivalent (FTE) staff needed to scope, undertake, and deliver activity.

3. Software and data

Table 3: Software and data activities for FY25–26

Activity	Description	Team(s)
Model evaluation and diagnostics tools	Achieved: - Developing a fully automated evaluation workflow for benchcab Working towards: - Release of ACCESS-ESM1.6 evaluation workflows using ILAMB and ESMValTool - Deployment of the CMIP Rapid Evaluation Framework (REF) on Gadi (stretch goal) Not achieved: - Evaluation of benchcab spatial outputs (stretch goal) - Enhancing continuous deployment and testing on Gadi (COSIMA recipes, ESMValTool) - Optimisation of recipes (stretch goal)	Model Evaluation & Diagnostics (MED) and Land Model teams *Collaborators: Bureau of Meteorology and CSIRO*
Model evaluation metrics	Achieved: - Integrate ENSO metrics into the CMIP Rapid Evaluation framework - Conversion of COSIMA recipes to Intake - Existing ENSO evaluation recipes expanded to include the Indian Ocean Dipole (IOD) Working towards: - Transitioning selected COSIMA-recipes into the ESMValTool framework Not achieved: - Establish and expand ACCESS atmosphere recipes (stretch goal) - Establish and expand ACCESS ISSM recipes (stretch goal)	Model Evaluation & Diagnostics (MED) and cross-organisation *Collaborators: COSIMA, Atmosphere and Cryosphere Working Groups*
ACCESS-NRI Intake catalogue	Achieved: - Released two updated versions - New file id system based on the grids on which variables are defined, rather than filenames - New builders and intake datastores to include additional NCI data collections Working towards: - Investigating the use of virtualised Zarr datasets for performance gains - Improved interoperability between evaluation tools and the ACCESS-NRI Intake catalogue Not achieved:	Model Evaluation & Diagnostics (MED)
Data standardisation	Achieved: - Model output specification for ACCESS-ESM1.6	Cross-organisation

	- ISMIP6 data specification for ACCESS-ISSM model output Working towards: - Model output specifications for CABLE and at least one additional ACCESS configuration. - Release of ACCESS-MOPPy (major version upgrade of MOPPeR) - ACCESS-MOPPy interoperability with the Intake catalog (stretch goal) - ACCESS-MOPPy back compatibility with OM2, ESM1.5 (stretch goal) Not achieved: - Manage provenance and discoverability of ancillaries (stretch goal)	
Data releases and data management	Achieved: - Development of a new data sharing option (Sandbox) under the merit scheme to support easier, more flexible sharing of short- to medium-term research data - Established and released Cryosphere Community Datapool Working towards: - Release and data management of ACCESS model outputs and related datasets for model evaluation (including merit-based datasets nominated by the Community Working Groups). Not achieved: - Plan for each model component for improving data provenance (stretch goal)	Cross-organisation
Data visualisation	Achieved: - Ran an expression of interest process for community visualisation project proposals Working towards: - Release of high-impact visualisations: o Uncharted Futures (Pacific Warming Trends) o Growing Trees in Australia's Earth System Model o Weather in High Definition: A lens into Australia's Atmosphere at Kilometre Scale Not achieved: - Visualisation recipes integrated with ACCESS-NRI Intake catalogue (stretch goal)	Model Evaluation & Diagnostics (MED) and Outreach & Engagement teams
Porting ACCESS models to GPUs	Achieved: Working towards: - Porting and optimising MOM6 to GPUs - Porting and optimising 1–2 configurations of ACCESS-OM3 Not achieved: - Porting of less frequently used features within MOM6 (stretch goal)	Software Transformation team *Collaborators: Geophysical Fluid Dynamics Laboratory (GFDL) – NOAA*
Machine learning	Achieved: Working towards: - Release and maintenance of *PyEarthTools* Not achieved: - Development and support of a machine learning cookbook for ACCESS users	Software Transformation team

Public scaling guidance	Achieved: - Release of the ACCESS-NRI Model Scaling Repository - Scaling data for ACCESS-ESM1.6, ACCESS-rAM3, ACCESS-OM3 Global 25km, and ACCESS-OM3 Pan-Antarctic 4km Working towards: Not achieved:	Software Transformation team
ACCESS-NRI Conda environments	Achieved: Working towards: - Ongoing support for community Conda environments hosted on project xp65 at NCI Not achieved:	Model Evaluation & Diagnostics (MED) and cross-organisation

*Full time equivalent (FTE) staff needed to scope, undertake, and deliver activity.

4. Training and engagement

Table 4: Training and engagement activities for FY25–26

Project	Description	Team(s)
ACCESS Community Workshop	Achieved: - Hosted and supported the annual ACCESS Community Workshop Working towards: - Planning and preparations for series of smaller workshops that will take place in next FY (in place of the annual ACCESS Workshop in 2026) Not achieved:	Business team
Community Working Groups support	Achieved: - Supported 6 major working group meetings and a Hackathon in Sept 25. Working towards: - Ongoing support for the six ACCESS Community Working Groups. - Improved student participation (stretch goal) Not achieved:	ACCESS-NRI Working Group Liaisons
Communication	Achieved: - 4 ACCESStory releases - FY2024-25 Highlights Report - 4 media releases 5 impact stories Working towards: - Ongoing communication of the impact and importance of ACCESS-NRI's software infrastructure and expertise for climate science researchers and decision-makers - Communication outputs (video and still images) for each of the visualisations from the EoI project) Not achieved:	Outreach & Engagement team and cross-organisation

Community engagement and outreach	Achieved: - 3 community engagement events - 1 outreach event Working towards: - Ongoing engagement that support the two-way interactions between ACCESS-NRI and our users, partners, funders and other NCRIS organisations Not achieved:	Outreach & Engagement team and cross-organisation
ACCESS Workshop Training Day	Achieved: - 2025 ACCESS Community Workshop Training Day Working towards: - Planning and preparations for training related events associated with 2026 workshops Not achieved:	User Training team and cross-organisation
User support	Achieved: - Support for private help requests - Internal review and improvements to the triaging workflow Working towards: - Continued support for help requests received through the ACCESS-Hive Forum Not achieved:	User Training team and cross-organisation
ACCESS user training	Achieved: - Support for ML-hackathon event (Nov) Working towards: - AMOS Workshop: ACCESS-rAM3 - AMOS Workshop: ACCESS Climate Model Output Data - At least one in-person ACCESS training event based outside of Canberra Not achieved:	User Training team and cross-organisation
ACCESS-NRI PhD internship program	Achieved: - Completion of the trial internship program at ANU Working towards: - Internship contracts in place with all partner universities - Launch of full internship program to host 2 PhD students Not achieved: - Host an additional 2 interns	User Training team and cross-organisation
ACCESS-Hive Docs and Forum	Achieved: Working towards: - Continued development and support of the Hive Docs and Forum - Review of web content across web platforms Not achieved: - Phased implementation plan to address the identified improvements - Update of web content with unified look and feel across websites (stretch goal)	Cross-organisation
UKMO partnership	Achieved: - UKMO agreement with ACCESS-NRI finalised - Development of workflow for access and use of UKMO materials under new agreement	Cross-organisation

	Working towards: - Adoption of workflow for access and use of UKMO materials under new agreement - Ongoing engagement with UKMO Not achieved: - Promote our status as a Momentum Research Partner across Australian research agencies/universities (stretch goal)	

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Glossary

Please visit our main website for a compilation of common terms and acronyms used within this document and by the ACCESS community: https://www.access-nri.org.au/community/access-glossary/